

REMARKS

Claims 1-3 and 6-18 were presented and examined. In response to the Office Action, Claim 1 is amended, Claim 8 is cancelled, and claims are added. Claims 4 and 5 were previously cancelled and Claims 19-23 were previously withdrawn from consideration.

Reconsideration of the pending claims is respectfully requested in view of the above amendments and the following remarks.

I. Rejections under 35 U.S.C. § 103

Claims 1-3, 6, 8-14, and 16-18 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,222,828 issued to Ohlson, et al. ("Ohlson") in view of U.S. Patent No. 6,483,553 issued to Jung ("Jung"). We respectfully traverse this rejection.

Claim 8 is cancelled therefore the rejection of Claim 8 on this basis is moot.

Regarding the rejection of independent Claim 1, Claim 1 is amended to incorporate the features of cancelled Claim 8 regarding wherein if the number of pilot spreading codes is less than the number of beams, the same pilot spreading code is reused in beams spaced apart in a predetermined distance and according to a predetermined reuse pattern; these features of Claim 1 are not disclosed by Ohlson.

Ohlson teaches a satellite system where *a unique code assigned to each subscriber/terminal*. Ohlson discloses a conventional satellite mobile communications system that uses unique orthogonal CDMA (ODS-CDMA) codes to discriminate among different users or physical channels within a cell or beam to minimize multiple access interference between terminals thereby increasing the number of terminals which may be supported per unit of allocated bandwidth. These ODS-CDMA codes are *uniquely assigned to each subscriber channel* (or terminal). For example, Ohlson states,

[d]uring operation, *each subscriber channel is assigned a unique code word* from the set of length 80 orthogonal codewords.

Ohlson, col. 8, lines 33-34 (emphasis added). Ohlson further states,

[each subscriber channel (or circuit) is assigned one code from a set of orthogonal Quadratic Residue codes.

Id., at col. 15, lines 1-3. However, the Claim 1 recites “wherein downlink beams of a satellite *share a same orthogonal spreading code* set for transmitting packets to the mobile stations among beams by synchronizing and transmitting signals of all beams, and wherein downlink beams of the satellite have a frame structure that shares *the orthogonal spreading codes among users.*”

Furthermore, Claim 1 is amended to incorporate the features of Claim 8. As correctly recognized by the Examiner, Ohlson does not teach the features of cancelled Claim 8, incorporated into amended Claim 1. As a result, the Examiner cites Jung. Jung generally relates to a TV receiver for digital/analog combined use. As described by Jung, a switch unit forwards a broadcasting signal, tuned at the tuner in response to a control signal, to either an analog broadcasting processor or a digital broadcasting processor. An auto gain controller receives a gain signal from either an analog broadcasting processor or a digital broadcasting processor, and adjusts a signal gain of the broadcasting signal to allow reception of both analog and digital signals.

According to the Examiner, the features of cancelled Claim 8 are disclosed with reference to col. 1, line 36 to col. 2, line 20 of Jung. The passages referred to by the Examiner, however, describe the European system, which is a coded orthogonal frequency division multiplexing (COFDM) transmission system in which multiple carriers are used. As indicated by the Examiner, the COFDM system uses a signal called pilot, which has a predictable value that is added at every fixed interval in both a frequency access and a time access between carriers of data at a transmitter side before transmission. As indicated by Jung, COFDM system is characterized in the use of multi-carrier intramission as well as the addition of pilots before transmission for use at the receiver side. (See col. 2, lines 18-21.) In contrast with Claim 1, Jung does not teach or suggest wherein if the number of pilot spreading codes is less than the number of beams, the same pilot spreading code is reused in beams spaced apart in a predetermined distance and according to a predetermined reuse pattern, as in Claim 1. It is improper for the Examiner to rely on Jung to disclose the features of amended Claim 1 since it cannot be said that a COFDM system reuses the same pilot spreading code in beams spaced apart in a predetermined

distance and according to a predetermined reuse pattern, as in Claim 1. Hence, neither col. 1, line 35 to col. 2, line 21 nor another other portion of Jung discloses or suggests wherein if the number of pilot spreading codes is less than the number of beams, the same pilot spreading code is reused in beams spaced apart in a predetermined distance and according to a predetermined reuse pattern, as in Claim 1.

The Examiner did not identify any portion of Jung to support his argument that Jung teaches wherein if the number of pilot spreading codes is less than the number of beams, the same pilot spreading code is reused in beams spaced apart in a predetermined distance or according to a predetermined reuse pattern, as in amended Claim 1. Support for the amendment to Claim 1 is provided at least with reference to page 2, paragraph 20 of the publication of Applicants' specification.

Hence, no combination of Ohlson in view of Jung teaches or suggests wherein if the number of pilot spreading codes is less than the number of beams, the same pilot spreading code is reused in beams spaced apart in a predetermined distance and according to a predetermined reuse pattern, as in Claim 1.

For each of the above reasons, therefore, Claim 1, and all claims which depend from Claim 1, are novel over Ohlson and Jung, as well as the references of record. Please reconsider and withdraw of the §103(a) rejection of Claims 1-3, 6, 9-14, and 16-18 in view of at least the above reasons.

Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohlson in view Jung further in view of U.S. Publication No. 2002/0172180 of Hall et al. ("Hall"). We respectfully traverse this rejection.

Regarding Hall, Hall also fails to disclose wherein if the number of pilot spreading codes is less than the number of beams, the same pilot spreading code is reused in beams spaced apart in a predetermined distance and according to a predetermined reuse pattern, as in Claim 1. Hence, no combination of Ohlson, Jung and Hall teaches or suggests wherein if the number of pilot spreading codes is less than the number of beams, the same pilot spreading code is reused in

beams spaced apart in a predetermined distance and according to a predetermined reuse pattern, as in Claim 1.

DEPENDENT CLAIMS

In view of the above remarks, a specific discussion of the dependent claims is considered to be unnecessary. Therefore, Applicants' silence regarding any dependent claim is not to be interpreted as agreement with, or acquiescence to, the rejection of such claim or as waiving any argument regarding that claim.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending, namely Claims 1-3, 6, 7 and 9-18, patentably define the subject invention over the prior art of record and are in condition for allowance and such action is earnestly solicited at the earliest possible date.

If there are any fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666. If a telephone interview would expedite the prosecution of this Application, the Examiner is invited to contact the undersigned at (310) 207-3800.

PETITION FOR EXTENSION OF TIME

Per 37 C.F.R. 1.136(a) and in connection with the Office Action mailed on JULY 6, 2009, Applicants respectfully petition Commissioner for a two (2) month extension of time, extending the period for response to DECEMBER 6, 2009. The amount of \$245.00 to cover the petition filing fee for a 37 C.F.R. 1.17(a)(2) small entity will be charged to our Deposit Account No. 02-2666.

Respectfully submitted,

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CERTIFICATE OF TRANSMISSION

I hereby certify that this correspondence is being submitted electronically via EFS Web to the United States Patent and Trademark Office on December 1, 2009.

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